

### Message from the Vice President

It's hard to believe that we are now into our fourth AEHS Convention. It's thanks to you, the attendees, that we have enjoyed such overwhelming success. This year's location is about as good as it gets with a number of significant museums and places of interest in the immediate Dayton area. Of course, our star attraction this year is the National Museum of the USAF, a.k.a. "The Air Force Museum".

As in years past we have attendees from abroad, indicating the degree of enthusiasm that our Society enjoys. Don't be shy – introduce yourself to fellow enthusiasts; enjoy the



*Ted Strickland*  
Governor of said State  
hereby officially recognizes

## **THE AIRCRAFT ENGINE HISTORICAL SOCIETY ANNUAL CONFERENCE JULY 19-22, 2007**

*Frances and I, on behalf of all Ohioans, welcome you to the "Birthplace of Aviation", Dayton, Ohio. We appreciate your efforts to make your research into the development of aircraft engines available to all. Dayton is a great city and we hope you have time to explore its many attractions.*

**BEST WISHES IN ALL FUTURE ENDEAVORS!**

ON THIS NINETEENTH DAY OF  
JULY, TWO THOUSAND SEVEN.



*Ted Strickland*  
Ted Strickland  
Governor



camaraderie that is such an integral part of the festivities. This is not just a string of dry presentations but a vibrant and exciting opportunity to learn and network. The memories and new friendships that you take from this Convention will be priceless.

This year's Welcome Package includes a comments sheet. Although not mandatory we'd certainly appreciate your feed back as to what we are doing right, what we are doing wrong and suggestions for further improvements. So please take time out to fill in this sheet, it can be mailed in after the convention.

Graham White, Vice President, AEHS

# GREETINGS

*Rhine McLin*

*Mayor of the City of Dayton, Ohio*

*Aircraft Engine Historical Society*

*Annual Conference*

*July 19-22, 2007*

On behalf of the citizens of Dayton, I am pleased to welcome the members of the Aircraft Engine Historical Society to Dayton, Ohio. We salute the work that your group has been involved in since organizing in July of 2001. Each of your members plays an important role in preserving important pieces of our nation's history, as well as educating the public about the history of aircraft engines.

While we understand your focus during this event is to foster old friendships and develop new relationships, we also hope you will find the time to learn about our city.

As Dayton is home to the Wright Brothers and the "Birthplace of Aviation," it is only natural that our attractions would feature our aviation heritage. You can learn about the history of flight by visiting the Dayton Aviation Heritage National Historical Park, the Aviation Trail and the United States Air Force Museum, just to name a few.

I extend my very best wishes for a rewarding and memorable reunion in 2007 and beyond.



A handwritten signature in dark ink, appearing to read "Rhine McLin". The signature is stylized and somewhat cursive.

Rhine McLin  
Mayor

# Schedule of Events

## Thursday July 19

- 12 noon to 5:00pm Registration at the Holiday Inn lobby. Participants will receive registration packets and can visit with other conventioners.
- 6:00pm to 9:00pm Happy hour and socialize. Light hors d'oeuvres served plus a cash bar.

## Friday July 20

- 8:00am to 9:30am Introduction by the AEHS officers, members' introduction, administrivia
- 9:30am to 12:30pm National Museum of the United States Air Force (also known as the US Air Force Museum)  
Restoration Hangar "Back Lot" Tour
- 1:00pm to 1:30pm Ten minute engine demonstration run at Holiday Inn
- 1:00pm to 2:30pm Lunch (provided by the AEHS)
- 2:30pm to 4:00pm Presentation – GE Chief Engineer Jan Schilling
- 4:00pm to 4:30pm Break
- 4:30pm to 5:15pm Presentation – Pete Law
- 6:30pm Dutch dinner at Ruby Tuesday's – participation optional, however, it is highly recommended

## Saturday July 21

- 9:00am to 10:30am Presentation – Dave Newill: Progress Towards a New Aircraft Engine Museum
- 10:30am to 11:00am Break
- 11:00am to 12 noon Presentation – Scott Wood
- 12 noon to 1:30pm Lunch program (lunch provided by the AEHS)
- 1:30pm to 5:30pm Visit to the National Museum of the USAF
- 6:00pm to 6:30pm Happy Hour and Socialize – Cash Bar at the Holiday Inn
- 6:30pm to 9:00pm AEHS Convention Dinner at the Holiday Inn  
After Dinner Speaker – Lee Hodgson

## Sunday July 22

- 9:00am to 10:30am Presentation – Round Table Discussion: National Museum of the USAF Engines
- 10:30am to 11:00am Break
- 11:00am to 12 noon Auction, wrap-up and goodbyes

## Driving Directions

**Ruby Tuesday's:** North on I-75. Take exit #59 (Benchwood). Take a left at the exit ramp and go back over I-75. Restaurant is at the corner of Miller and Benchwood. Telephone: (937) 454-0535

**Museum:** Left out of Holiday Inn on Wagner Ford. Make a right on Needmore. Follow Needmore to Museum, about 4 - 5 miles. Note, Needmore changes name to Harshman.

# Presenters' Biographical Notes

**Lee Hodgson** graduated from the University of Texas in 1971 and started work as a test engineer at Pratt & Whitney in East Hartford. Other experience includes being a design engineer in electro-optics for Texas Instruments. Currently he works as a gas turbine systems engineer in Cincinnati, Ohio. He has a home machine shop where he builds model radial and rotary engines. His current project is a model of a 14 cylinder sleeve valve radial. Lee presented at the first AEHS Convention discussing miniature engines. We welcome him back, this time as our after dinner speaker for the Banquet. Lee can be found on the web at [www.ageles-sengines.com](http://www.ageles-sengines.com)

**Pete Law** has enjoyed a fascinating career—primarily working in Lockheed's famous "Skunk Works". The first post-1949 Thompson Trophy Unlimited Class air race was held in Reno in 1964. Shortly after this inaugural event Pete became involved in Daryl Greenamyre's Bearcat project. Fellow Skunk Works engineer Bruce Boland was also involved. With these two brilliant engineers there is little wonder that Greenamyre's Bearcat quickly established itself as the world's fastest piston engined aircraft. It was on this project that Pete cut his teeth on systems such as cooling, carburetors, water injection systems, ram recovery designs...etc. Within a few short years Pete became indispensable on the Reno ramp as he was barraged with requests from racers on engineering problems. It would be impossible to list all of Pete's accomplishments in this brief bio but suffice to say he was intimately involved with aircraft such as the Red Baron RB-51, Super Corsair and Tsunami. Another regular at AEHS Conventions, Pete's lively presentations will keep the audience on the edge of their seats.

**David B. Newill** is the President of the Allison Branch of the Rolls-Royce Heritage Trust. This Branch focuses on the collection, preservation, protection and exhibition of the history of the Indianapolis operations and engineering site—formerly known as Allison. David's day job, as Sr. Executive Marketing & Strategy, Helicopter Engines, Rolls-Royce, is to create and maintain the strategy for Rolls-Royce's Helicopter Engine business, and to provide the marketing support to execute that strategy. Historically, David was a part of the Allison History Club, a group that assembled the company history for its 75<sup>th</sup> anniversary in 1985. He was heavily involved in the production of that events anniversary book, *Allison - Power of Excellence* and the associated Jim Dietz artwork.

His interest in aviation history goes back to the 1960s when, as a resident of nearby Centerville, Ohio, he and his best friend, both too young to drive, would be dropped off in the early mornings at the (then) USAF Museum, with \$5 for lunch and left to their own wanderings for the day before being picked up by a parent returning from work later in the afternoon. What a great way to spend a summer day—inside the old museum, examining airplanes and artifacts and learning the history of aviation from an Air Force point of view. This probably was a strong influence on David as he ended up at the USAF Academy—graduating with a degree in

Civil and Mechanical engineering. While there he was the president of the Heritage Club (no relationship to Heritage Trust) where he engineered an invitation for the Academy to be represented at the grand opening of the new USAF Museum—where our meeting is being held! David and his roommate were selected to be the examples of the future of the Air Force in a building housing its past.

An avid supporter of aviation museums, he has traveled to a great many contemporary collections around the world—with camera in hand—documenting their engine collections. Some of this was done during his USAF tour of duty as a KC-135 pilot, much more as an executive for General Motors Allison and then Rolls-Royce Corporation.

David is married to Sharon, and they have three grown children. He is an active pilot, owns an ASW-15 sailplane, and is a Regional Director, and head of Growth and Promotions for the Soaring Society of America. In the professional arena, he is highly active in AIAA, is the Corporate Committee Chair for AIAA and sits on the Antique and Heritage aircraft committee.

Today he is leading the efforts to get the Allison collection properly housed and displayed. His talk today will focus on that subject.

**Jan Schilling** is GE Aviation's Chief Engineer and General Manager. He is responsible for Flight Safety, Airworthiness & Certification, and Engineering Integrity. Jan has spent his 38 year career at GE Aviation working from advanced demonstrators Quiet Engines, QCSEE, E3, and the Unducted Fan to current production engines CFM56, CF6-80, and F110. Before becoming Chief Engineer he had engineering responsibility for the GE90-115B engine from concept through certification. Jan is a member of the Civil Aviation Council and he Chairs the Civil Aviation Regulatory and Safety Committee. He is on the Industry Advisory Board for Mechanical, Industrial and Nuclear Engineering of the University of Cincinnati. He holds a BSME from the Indiana Institute of Technology and a MSAsE from the University of Cincinnati.

**Scott Wood** retired from the US Navy in 1997 as an aircraft engine mechanic. He then worked for Raytheon aerospace in the C-21 program at Andrews Air Force Base as a flight line mechanic, working nights. During the day, he volunteered at the Paul E. Garber Preservation and Restoration Facility. Scott came onboard with the Smithsonian in 1999 where he completed major restoration projects. He has now re-focused on preservation of artifacts, mainly engines, to fill the requirements of the Steven F. Udvar-Hazy Center. To this day he is completing projects, from polishing aluminum aircraft to preserving engines and maintaining the Boeing 307 to an F-1 rocket engine. He is also an instructor at an Aviation School in Manassas Virginia, but most of his time is spent on home projects; completing a restoration project of an R-2600 engine, and working on a SBD project.





**DEPARTMENT OF THE AIR FORCE**  
NATIONAL MUSEUM OF THE UNITED STATES AIR FORCE  
1100 SPAATZ STREET  
WRIGHT PATTERSON AIR FORCE BASE, OHIO 45433-7102

22 May 2007

NMUSAF/CL  
1100 Spaatz Street  
Wright-Patterson AFB OH 45433-7102

Aircraft Engine Historical Society, Inc.  
Mr. Lee. K. Hodgson  
7895 Mitchell Farm Lane  
Cincinnati OH 45242

Welcome to the Aircraft Engine Historical Society,

We are honored that you have included the National Museum of the United States Air Force as part of your fourth annual AEHS convention on July 20, 2007. It is a pleasure to afford you the opportunity to tour the world's largest and oldest military aviation museum.

Among the 400 (plus) aerospace vehicles under roof, you will find thousands of artifacts and exhibits and hundreds of engines in various aircraft designs from the Wright brother's initial engines to those belonging to some of the world's most sophisticated aircraft.

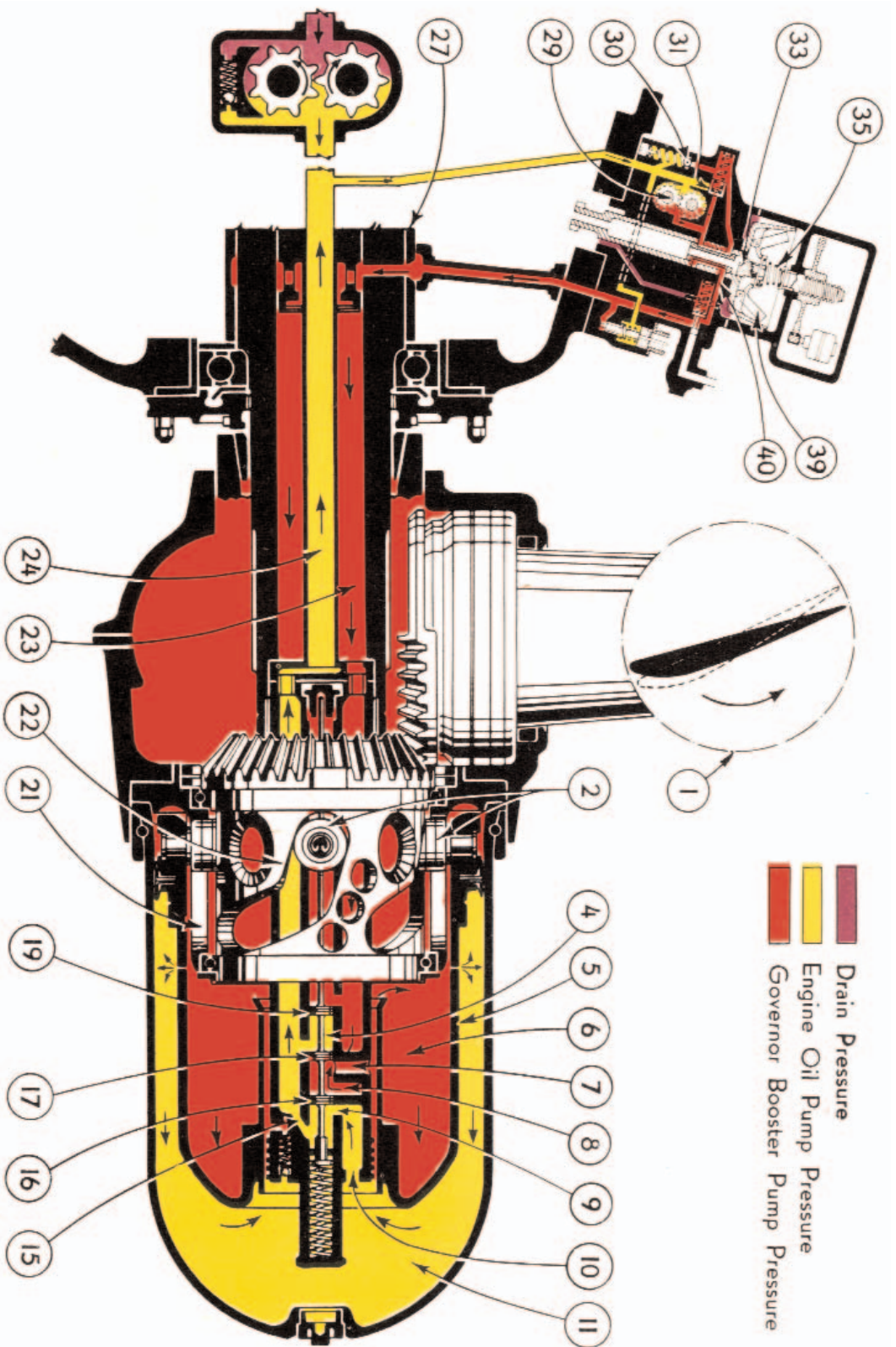
We have also made special arrangements for your group to participate in a behind the scenes tour of our aircraft restoration area. While we are sure you'll find all of the restoration projects interesting, of special interest to your group will be the aircraft engines currently being restored for the famous B-17F "Memphis Belle".

We appreciate the opportunity to share with you our collection of world-class aviation artifacts and hope your time with us is enjoyable and interesting. Again thank you for making the National Museum of the USAF a part of your AEHS Convention.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles D. Metcalf", is positioned above the typed name.

CHARLES D. METCALF  
Major General, USAF, Retired, SES  
Director



- Drain Pressure
- Engine Oil Pump Pressure
- Governor Booster Pump Pressure

**Key**

- 1. Blade Angle Schematic Diagram
- 2. Cam Rollers
- 4. Distributor Valve
- 5. Double Acting Piston
- 6. Inboard Piston End
- 7. Distributor Valve Inboard Outlet and Inlet Port
- 8. Distributor Valve Port
- 9. Distributor Valve Port
- 10. Distributor Valve Outboard Outlet and Inlet Port
- 11. Outboard Piston End
- 15. Distributor Valve Port
- 16. Distributor Valve Land
- 17. Distributor Valve Land
- 19. Distributor Valve Land
- 21. Fixed Cam
- 22. Rotating Cam
- 23. Propeller Shaft Governor Oil Passage
- 24. Propeller Shaft Engine Oil Passage
- 27. Propeller Shaft Oil Transfer Rings
- 29. Governor Booster Gear Pump
- 30. Governor Dump Valve
- 31. Governor Relief Valve
- 33. Governor Pilot Valve
- 35. Governor Speeder Spring
- 39. Governor Flyweights
- 40. Propeller-Governor Metering Port